

[57]

ABSTRACT

Apparatus for use in cannulation of blood vessels includes a hollow needle having a sharpened end for penetrating tissue, a trocar including a transducer mounted on one end for positioning within the hollow needle for transmitting and receiving ultrasonic waves through the sharpened end of the needle. The trocar further includes a support rod for the transducer and ultrasound damping material attaching the transducer to the support rod. Electrical conductors are provided through the support rod or on the surface of the support rod in contact with electrodes on the front and back surfaces of the transducer for transmitting electrical signals to and from the transducer. A syringe portion is detachably detached from the needle for receiving the back flow of blood when the needle is inserted into a blood vessel.